OMSCS 6795 Syllabus

Cognitive Science (OMSCS), 3 Credits

Fall 2026

Instructor Information

Instructor: Keith McGreggor, PhD

Email: keith.mcgreggor@gatech.edu

Teaching Assistants: TBD

General Course Information

Description

CS 6795 is a 3-credit graduate introductory course on cognitive science. Cognitive science is an interdisciplinary study of mind and intelligence. The core question is how does mind work? That is, how does mind produce intelligent behavior?

Cognitive science lies at the intersection of computer science (especially artificial intelligence), psychology, biology (especially neurobiology), education, linguistics, anthropology, and philosophy.

From the Georgia Tech course catalog: “Multidisciplinary perspectives on cognitive science. Interdisciplinary approaches to issues in cognition, including memory, language, problem solving, learning, perception, and action.”

Like the in-person version (CS 6795), this course is heavily project-based including both guided and self-directed projects. It will consist of a series of video lessons; reading assignments; quizzes; individual exercises; and one self-directed term project. Unlike the on-campus class, this (OMSCS 6795) class is fully online and asynchronous, with the video lessons and the online discussion forum replacing the in-person classes. However, the professor will hold optional fireside chats at specific times throughout the semester.

Delivery Method: Online, asynchronous (OMSCS).

Pre- and/or Co-Requisites

An open and inquisitive mind! An aptitude for reading! An aptitude for self-directed, project-based and collaborative learning. Also, some background in basic computer science and programming such as data structures and algorithms. Note that this course requires substantial reading and writing, as well as considerable investment of time.

Course Learning Outcomes

Upon successful completion of this course, you should be able to:

- Understand and participate in scholarly conversations on cognitive science.
- Read and understand the cognitive science literature.
- Take advanced courses in cognitive science.
- Take the cognitive science specialization in the Georgia Tech Ph.D. qualifying examination in human-centered computing.

- Analyze and address problems in human-centered computing from a cognitive science perspective.
- Conduct research into cognitive science.

Required Course Materials

MIND, An Introduction to Cognitive Science, Paul Thagard, MIT Press, 2nd edition, 2005.

Cognitive Science, Jay Freidenberg and Gordon Silverman, SAGE, 2016.

The MIT Encyclopedia of the Cognitive Sciences, Robert Wilson and Frank Keil (editors), MIT Press, 1999.

Additional readings are specified in the class schedule and provided digitally on Canvas.

Grading Policy

Final grades will be calculated based on the weighted components below. The final grades may be subject to adjustments.

At Georgia Tech, final course grades are awarded on a scale of A–F with no +/- grades permitted.

Assignments

- Class Surveys: 5%
- Quizzes (Q1–Q12): 10%
- Individual Exercises (IE1–IE6): 35%
- Self-Directed Term Project (M1–M4): 50%

Description of Graded Components

Class Surveys: There will be three class surveys in all, including the final CIOS survey administered by Georgia Tech.

Quizzes: We will have a quiz almost every week for a total of twelve quizzes. Each quiz will consist of multiple-choice questions directly from the primary readings. Two attempts are permitted per quiz, and the highest score will be recorded.

Individual Exercises: We will have six individual exercises. Each of the six exercises will pertain to the readings in the class and will result in a short report on the exercise.

Self-Directed Term Project: The semester-long term project will unfold over 12 weeks. Students may choose to investigate a topic of their choice. We expect each student to spend at least 100 person hours on the project. The project includes a detailed analysis of a problem from the perspective of cognitive science and a survey of the related literature. There are 3 required milestones with one optional check-in milestone.

We encourage all students to think of the term project as potentially leading to a paper worthy of publication. We will be using the IEEE conference template.

Course Policies

Attendance and/or Participation

This course is fully online and asynchronous. There are no mandatory synchronous meetings. However, students are expected to watch video lessons and complete readings each week on schedule.

The professor will hold optional fireside chats at specific times throughout the semester.

This class requires strong participation through the completion of class surveys.

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards.

Review the Student Code of Conduct and the Academic Honor Code, especially Appendix A: Graduate Addendum to the Academic Honor Code.

Students are expected to perform research in an ethical and responsible manner. All Doctoral and Master's Thesis students are required to take the Responsible Conduct of Research training, and it is expected that students abide by the principles taught in that training while performing research.

Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Allegations of scientific or scholarly misconduct are handled in accordance with the procedures outlined by the Policy for Responding to Allegations of Scientific or Other Scholarly Misconduct.

Learning is a social process. We strongly encourage collaboration in this class. On the other hand, we will abide by Georgia Tech's honor code of academic conduct. This means that any work submitted by a student must be his or her own.

With the advent of the internet, it has become easy to take materials from various resources available on the web. But please remember that it has also become easy to check for it. Students are encouraged to consult resources available on the web and elsewhere. However, any material taken from any resource must be properly attributed. The paper must reflect the student's own design and analysis, work and writing. No borrowing is permitted from the work of other students whatsoever. Only citations to publicly available content are permitted. No citations to content behind password walls are allowed.

Core IMPACTS

Not applicable.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (404-894-2563) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Student-Faculty Expectations articulate some basic expectations that you can have of me and that I have of you. Additional information for research-related work is given in The Expectations of Advisors and Advisees. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Collaboration, Group Work, and Use of Generative AI

If you wish, you are permitted to use ChatGPT and other LLMs to support your writing for any assignment. However, if you do so, you must properly cite each section within which the tool was used, even if you have rephrased the generated information. See the IEEE guidelines for proper citation methods.

Extensions, Late Assignments, and Re-Scheduled/Missed Exams

All assignments are due at 11:59pm Anywhere on Earth time, unless otherwise noted. We will not accept assignments submitted late due to time zone issues. You should update your Canvas to reflect your time zone. There are no exceptions.

There will be no make-up work provided for missed assignments. Of course, emergencies (illness, family emergencies) will happen. In those instances, please contact the Dean of Students office. The Dean of Students is equipped to verify emergencies and pass confirmation on to all your classes.

Official Course Communication

You are responsible for knowing: (1) Anything posted to this syllabus, and (2) Anything emailed directly to you by the teaching team (including announcements via Canvas and Ed Discussions), 24 hours after receiving such an email or post.

Because Canvas and Ed Discussions announcements are emailed to you as well, you need only to check your Georgia Tech email once every 24 hours to remain up to date.

Office Hours

There will not be formal office hours held during the semester, but students may request meetings with the teaching assistants as needed. Otherwise, please direct all questions to the course discussion forum.

Proctoring Information

In order to verify the identity of all GT online students, all online students are required to complete the onboarding quiz that uses Honorlock. Honorlock is utilized for student identity verification and to ensure academic integrity. Honorlock provides student identity verification via facial and ID photos. You may also be asked to scan the room around you. The onboarding quiz will be a practice quiz that will not affect your grade in the course. You can take the onboarding quiz as many times as you want. All potential violations are reviewed by a human. The Honorlock support team is available 24/7. You can also access Honorlock support at https://honorlock.com/support/.

Campus Resources for Students

A list of resources for graduate students is given on the Office of Graduate and Postdoctoral Education website. This includes academic resources, student resources, and professional development opportunities.

Student Well-Being

At Georgia Tech, we are concerned about your overall physical, social, and mental well-being. A comprehensive list of wellness-related resources has been compiled and maintained by the Office of the Vice President for Student Engagement and Well-being.